

Options for emergency surge capacity

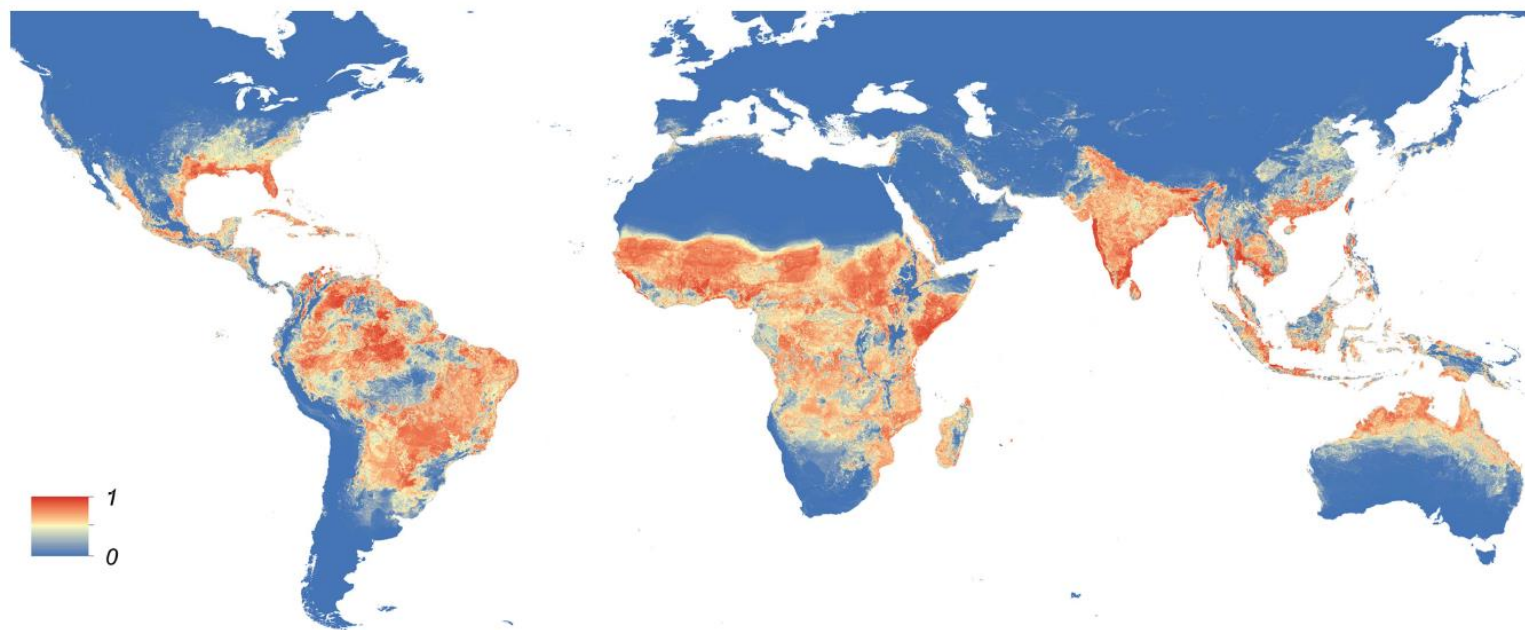
Introduction and context to surge capacity needs

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Probability of the occurrence for *Ae. aegypti* and populations at risk for YF



Continent	Population at risk
Africa	127,000,000
Americas	514,000,000
Asia	2,680,000,000
Europe	45,900,000
Oceania	22,600,000
Total	3,187,000,000

Potential strategies to improve YF vaccine supply

- Revolving vaccine stockpile
- Storage & shelf-life
 - Shelf-life extension of bulk
 - Long-term storage of unlabelled vaccine vials
 - Shelf-life extension of finished product

➔ Greater flexibility in vaccine manufacturing and storage
- Fractional dose use of vaccine as emergency response

➔ Increase the number of available vaccine doses
- *Long-term: more flexible production technologies (cell culture)*

Depletion of stockpile shows need for flexible supply options to address exceptional surge needs

- ICG vaccine emergency stockpile includes 6 million doses per year, which were used up twice:
 - 2008: 6 million doses used once to control outbreaks in Brazil & Paraguay
 - 2016: up to 18 million doses used – exceptionally YF emergency stockpile was replenished twice by partners.
- Rapid replenishment of the stockpile relied on

 - Vaccine manufacturers *voluntary* reprioritizing their production plans
 - WHO-UNICEF working group working with the countries to reprogramme EPI vaccine routine shipments thus to avoid country stock outs
 - Gavi approving *exceptional* replenishment requests
- "EYE" strategy proposes a rapidly revolving emergency stockpile of 6 million doses.

From WHO's response to the 2016 yellow fever outbreak



Meeting of the Emergency Committee under the International Health Regulations (2005) concerning Yellow Fever

WHO statement
19 May 2016

"Recognizing the limited international supply of YF vaccines, the committee also advised the immediate application of the policy of 1 lifetime dose of YF vaccine and the rapid evaluation of YF vaccine dose-sparing strategies by the WHO SAGE."



WHO Secretariat paper, "vetted" by SAGE



Lower doses of yellow fever vaccine could be used in emergencies

WHO statement
17 June 2016

"This approach, known as fractional dosing, is under consideration as a short-term measure, in the context of a potential vaccine shortage for use in emergencies. This approach is not proposed for routine immunization,..."



**World Health
Organization**

Dose-sparing strategy in Kinshasa vs. full dose use in border area (planning data)

Recommended full dose target population

DRC border areas	Target pop/ commodity requirements
Population	2,888,548
Doses	3,315,755
Vaccines	3,315,755
Syringes (0.5ml)	3,315,755

Recommended fractionated dose population

DRC – Kinshasa	Target pop/ commodity requirements
Population*	7,586,400
Doses	10,000,000 (fractionated)
Vaccines	2,500,000
Syringes (0.1ml)	10,000,000

(*includes subgroups receiving full dose)